

# Notice of Allowability

Application No.

10/631,152

Examiner

Sow-Fun Hon

Applicant(s)

ELMAN ET AL.

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1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment dated 11/21/05.
2. ☒ The allowed claim(s) is/are 1-31, 33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 01/18/06.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

Continuation of Attachment(s) 9. Other: The drawings dated 7/31/03 are accepted by the Examiner.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/05 has been entered.

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Art Kluegel on January 19, 2006. The application has been amended as set forth below.
2. Claim 32 is cancelled.
3. Substitute claim 1 with - - A multilayer compensator comprising one or more polymeric A layers and one or more polymeric B layers, wherein: said A layers comprise a polymer having an out-of-plane ( $\Delta n_{th}$ ) birefringence not more negative than -0.01; said B layers comprise an amorphous polymer having an out-of-plane birefringence more negative than -0.01, where the polymers of said B layers do not have chromophores off of the backbone; the multilayer compensator is biaxial, where the overall in-plane

retardation ( $R_{in}$ ) of said multilayer compensator is greater than 20 nm and the out-of-plane retardation ( $R_{th}$ ) of said multilayer compensator is more negative than -20 nm; and wherein the term "amorphous" means that the polymer does not show long-range order as measured by X-ray diffraction. - -

4. Amend claim 7, substitute line 2 with - - wherein the combined in-plane retardation ( $R_{in}$ ) of the A layers are such that the overall in-plane retardation ( $R_{in}$ ) of said multilayer compensator is greater than 20 nm. - -

5. Amend claim 23, substitute line 3 with - - chromophore group. - -

6. Amend claim 25, substitute line 2 with - - layer comprises amorphous polymer stretched above its glass transition temperature. - -

7. Substitute claim 33 with - - A multilayer compensator comprising one or more polymeric A layers and one or more polymeric B layers, wherein: said A layers comprise a polymer having an out-of-plane ( $\Delta n_{th}$ ) birefringence not more negative than -0.01, and one or more individual A layers have an in-plane retardation greater than 20 nm; said B layers comprise an amorphous polymer having an out-of-plane birefringence more negative than -0.01; the multilayer compensator is biaxial, where the overall in-plane retardation ( $R_{in}$ ) of said multilayer compensator is greater than 20 nm and the out-of-plane retardation ( $R_{th}$ ) of said multilayer compensator is more negative than -20 nm; and wherein the term "amorphous" means that the polymer does not show long-range order as measured by X-ray diffraction. - -

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8. The following is an examiner's statement of reasons for allowance.

9. Claims 1-19 are allowed. The cited prior art of record US 5,720,641 fails to teach or suggest, even with US 6,512,561, US 6,628,359, US 6,630,973, the combination of a multilayer compensator comprising one or more polymeric A layers and one or more polymeric B layers, wherein: said A layers comprise a polymer having an out-of-plane ( $\Delta n_{th}$ ) birefringence not more negative than -0.01; said B layers comprise an amorphous polymer having an out-of-plane birefringence more negative than -0.01, where the polymers of said B layers do not have chromophores off of the backbone; the multilayer compensator is biaxial, where the overall in-plane retardation ( $R_{in}$ ) of said multilayer compensator is greater than 20 nm and the out-of-plane retardation ( $R_{th}$ ) of said multilayer compensator is more negative than -20 nm; and wherein the term "amorphous" means that the polymer does not show long-range order as measured by X-ray diffraction. None of the references teach that the B layers of the multilayer compensator comprise an amorphous polymer having an out-of-plane birefringence more negative than -0.01, and does not have chromophores off of the backbone, wherein the amorphous polymer does not show any long-range order as measured by X-ray diffraction. See the affidavit dated 11/21/05 and the accompanying remarks. Further consideration of the affidavit has determined that the amorphous polymers named by Applicant in the specification, the copolymers of 1) a poly(4,4'-hexafluoroisopropylidene-bisphenol) terephthalate-co-isophthalate, 2) a poly(4,4'-hexahydro-4,7-methanoindan-5-ylidene bisphenol) terephthalate, 3) a poly(4,4'-isopropylidene-2,2',6,6'-tetrachlorobisphenol) terephthalate-co-isophthalate, 4) a

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poly(4,4'-hexafluoroisopropylidene)-bisphenol-co-(2-norbornylidene)-bisphenol terephthalate, 5) a poly(4,4'-hexahydro-4,7-methanoindan-5-ylidene)-bisphenol-co-(4,4'-isopropylidene-2,2',6,6'-tetrabromo)-bisphenol terephthalate, and 6) a poly(4,4'-isopropylidene-bisphenol-co-4,4'-(2-norbornylidene) bisphenol) terephthalate-co-isophthalate are comparable to the copolymer of 7) a poly(4,4'-hexafluoroisopropylidene-bisphenol-co-4,4'-(2-norbornylidene) bisphenol) terephthalate-co-isophthalate used in the affidavit, in terms of asymmetrical structure which disrupts crystalline packing to the point of preventing any long range order in the polymer as measured by X-ray diffraction.

10. Claims 20-21 are allowed. The cited prior art of record, US 5,720,641 fails to teach or suggest, even with US 6,512,561, US 6,628,359, US 6,630,973, the combination of a multilayer compensator comprising one or more polymeric A layers and one or more polymeric B layers, wherein: said A layers comprise a polymer having an out-of-plane birefringence not more negative than -0.01, said B layers comprise an amorphous polymer having an out-of-plane birefringence more negative than -0.01; and the overall in-plane retardation ( $R_e$ ) of the multilayer compensator is greater than +20nm and the out-of-plane retardation ( $R_{th}$ ) of said multilayer compensator is more negative than -20nm, wherein a B layer comprises a copolymer containing 1) a poly(4,4'-hexafluoroisopropylidene-bisphenol) terephthalate-co-isophthalate, 2) a poly(4,4'-hexahydro-4,7-methanoindan-5-ylidene bisphenol) terephthalate, 3) a poly(4,4'-isopropylidene-2,2',6,6'-tetrachlorobisphenol) terephthalate-co-isophthalate, 4) a poly(4,4'-hexafluoroisopropylidene)-bisphenol-co-(2-norbornylidene)-bisphenol

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terephthalate, 5) a poly(4,4'-hexahydro-4,7-methanoindan-5-ylidene)-bisphenol-co-(4,4'-isopropylidene-2,2',6,6'-tetrabromo)-bisphenol terephthalate, and 6) a poly(4,4'-isopropylidene-bisphenol-co-4,4'-(2-norbornylidene) bisphenol) terephthalate-co-isophthalate or 7) a poly(4,4'-hexafluoroisopropylidene-bisphenol-co-4,4'-(2-norbornylidene) bisphenol) terephthalate-co-isophthalate. None of the references teach the claimed materials of said B layer.

11. Claim 33 is allowed. The cited prior art of record, US 5,720,641 fails to teach or suggest, even with US 6,512,561, US 6,628,359, US 6,630,973, the combination of a multilayer compensator comprising one or more polymeric A layers and one or more polymeric B layers, wherein: said A layers comprise a polymer having an out-of-plane birefringence not more negative than -0.01, and one or more of said A layers have an in-plane retardation greater than +20 nm, said B layers comprise an amorphous polymer having an out-of-plane birefringence more negative than -0.01; and the overall in-plane retardation ( $R_e$ ) of the multilayer compensator is greater than +20nm and the out-of-plane retardation ( $R_{th}$ ) of said multilayer compensator is more negative than -20nm, and wherein the term "amorphous" means that the polymer does not show any long-range order as measured by X-ray diffraction. None of the references teach that a polymeric A layer of the multilayer compensator has an in-plane retardation of greater than +20 nm, in combination with the B layers of the multilayer compensator comprising an amorphous polymer having an out-of-plane birefringence more negative than -0.01, wherein the amorphous polymer does not show any long-range order as measured by X-ray diffraction. See the affidavit dated 11/21/05 and the accompanying remarks.

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12. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*S. Hon*  
Sow-Fun Hon

01/19/08

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1772

1/20/08